Remote sensing of temperature and cyanobacteria concentration in the natural water column
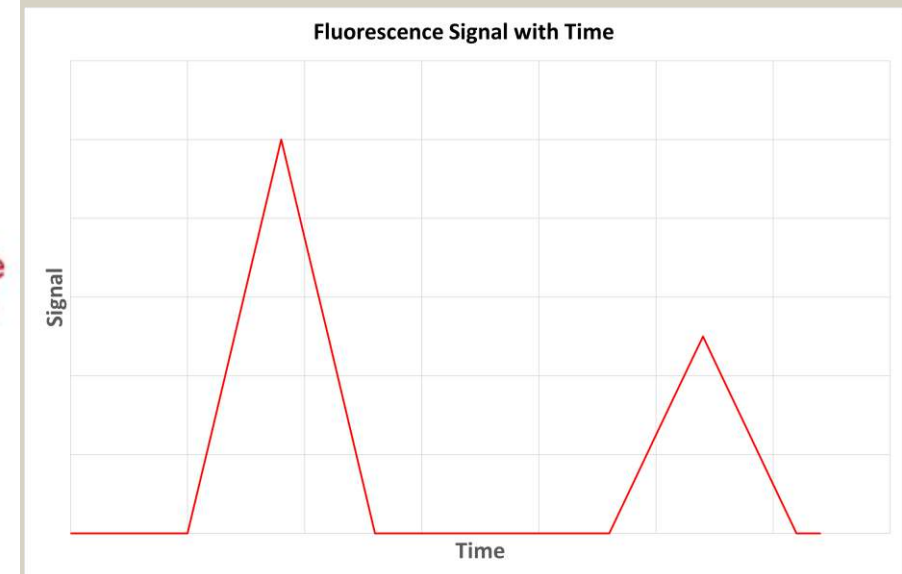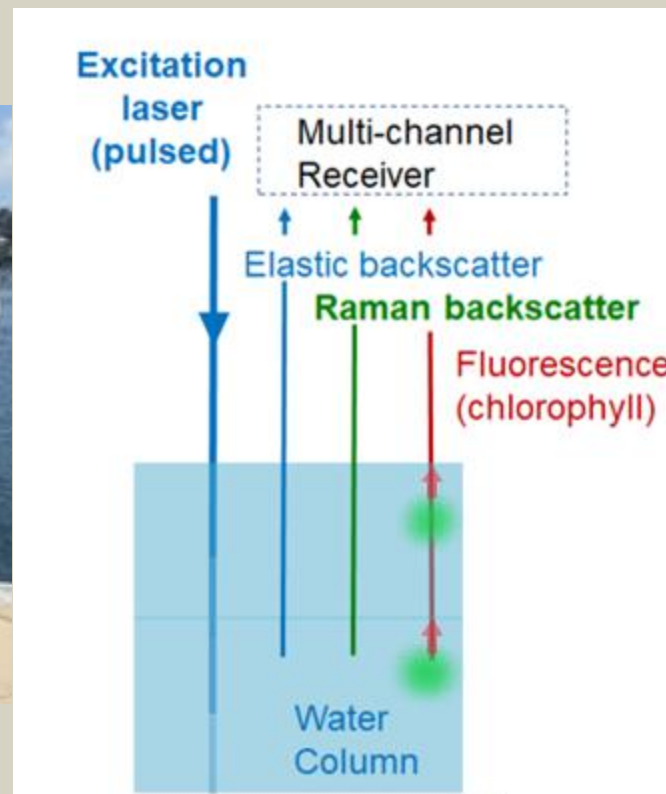
Carolyn Taylor, Ondrej Kitzler, Simon Curtis, Brad Neimann, Lachlan Anderson, James Downes, Judith Dawes, David Spence, and Helen Pask.
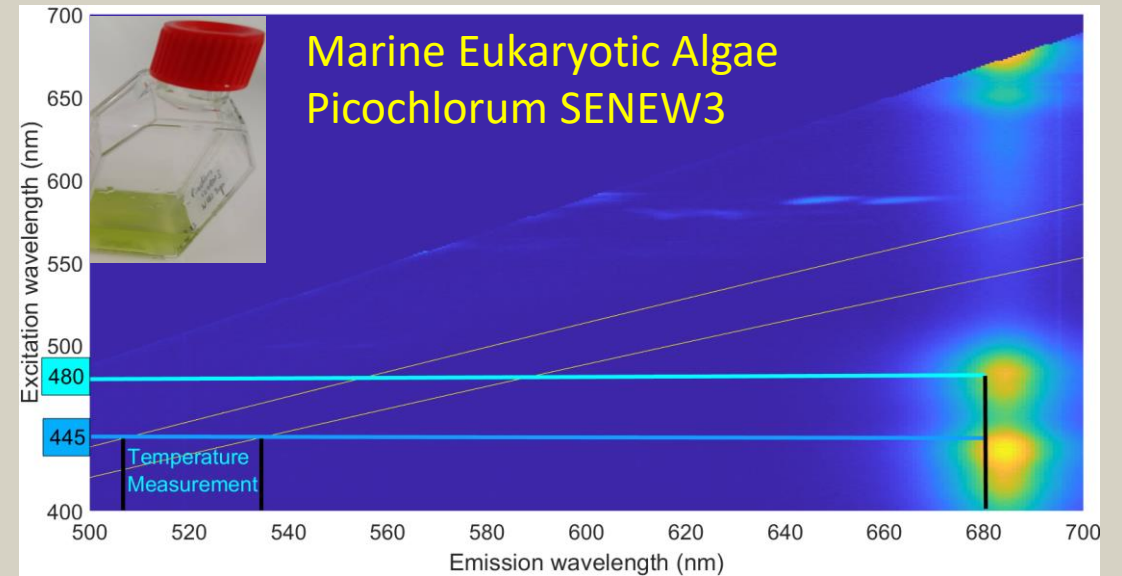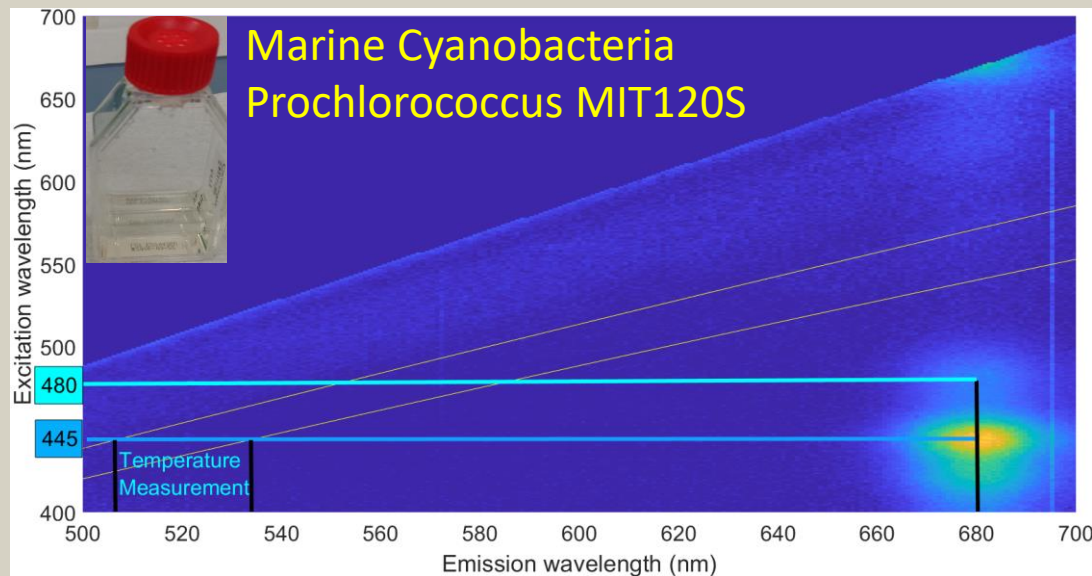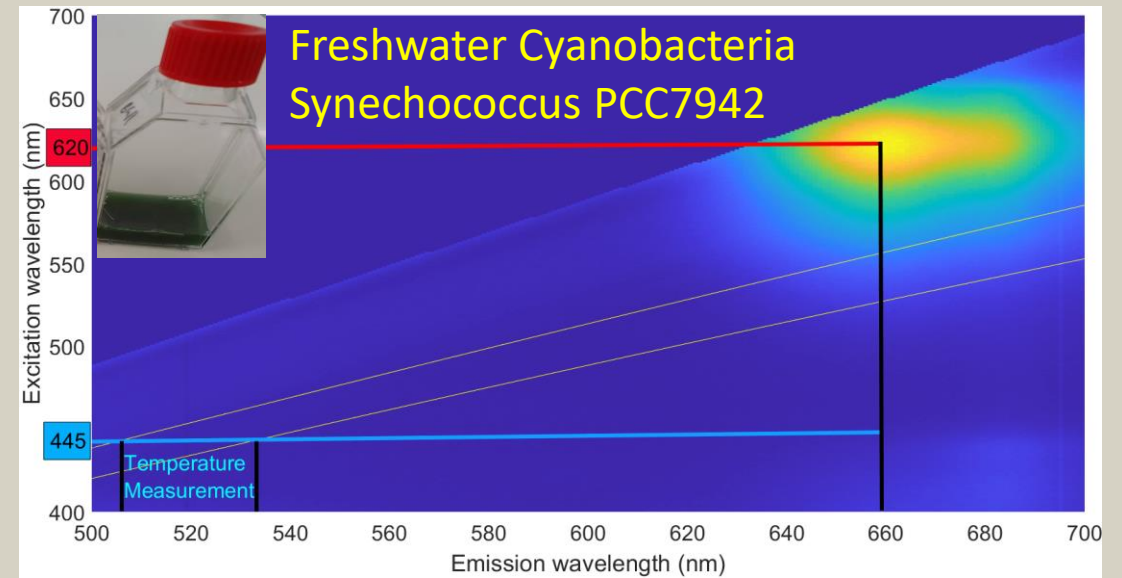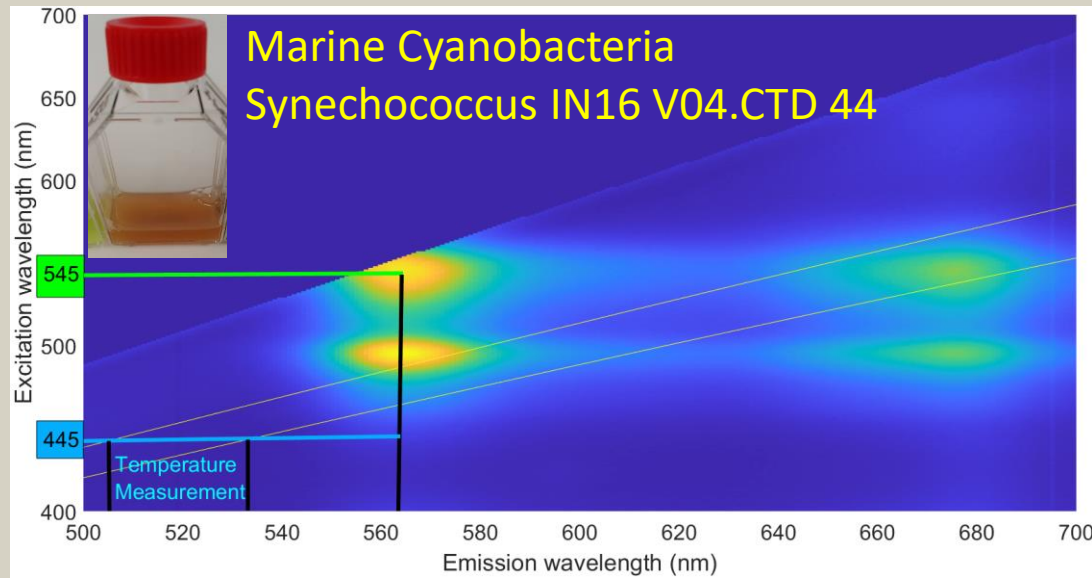
A land- or ship-based LiDAR system to measure depth-resolved properties of the water column.

Different cyanobacteria and algae have different fluorescence excitation-emission fingerprints

Marine Cyanobacteria Synechococcus IN16 V04.CTD 44

Freshwater Cyanobacteria Synechococcus PCC7942

Marine Cyanobacteria Prochlorococcus MIT120S

Marine Eukaryotic Algae Picochlorum SENEW3

Next steps

- Optimise fluorescence detection with LiDAR system
- Calibrate the cyanobacteria fluorescence with water temperature and concentration
- Measure cyanobacteria in natural waters from a drone

Partner with us!

We are a team of physicists and chemists and would love to collaborate with water quality researchers and end-users to maximise our impact

What sensing capability would be most useful for you?